

What's the difference between EP, EPR, and EPDM?

From a performance standpoint, there is no noticeable difference. EP refers to the ethylene-propylene family of rubber materials. EPR specifically refers to EP copolymer, while EPDM refers to EP terpolymer. EP copolymers must be peroxide-cured, while EPDM polymers can be cured via sulfur or peroxide. While this is important information in terms of O-ring manufacturing, this difference is transparent to the end user.

What is Viton A?

A-type fluorocarbon elastomer is the "standard" type of fluorocarbon - technically a copolymer containing 66% fluorine on the base polymer. See Parker's Fluorocarbon Fact Sheet for more information on the different types of fluorocarbon seal materials.

What are LIM (Liquid Injection Molding) and LSR (Liquid Silicone Rubber)?

LIM (a.k.a. LSR) is a type of silicone rubber technology commonly used in medical device components and complicated molded shapes.

Does Parker make Kalrez®?

Kalrez® is a perfluoroelastomer from DuPont Dow Elastomers, Inc. Parker's Parofluor line is in direct competition with this type of material.

Does Parker make Chemraz®?

Chemraz® is a perfluoroelastomer from Greene, Tweed, & Co. Parker's Parofluor line is in direct competition with this type of material.

What are the different types of fluorocarbon rubber?

Please see our Fluorocarbon Fact Sheet for a discussion of the different types of fluorocarbon rubber.

What is litharge curing?

Litharge, or lead oxide, was a cure system used to increase the acid resistance of fluorocarbon elastomers. In the 1980's, Parker eliminated lead oxide as a compounding ingredient due to the environmental hazards involved. Today, B-type fluorocarbons like Parker's V0834-70 are recommended for acid applications, and in fact provide better long-term resistance than older litharge-cured compounds.

Does Parker make Viton®?

Viton® is DuPont Dow Elastomers' brand name of fluorocarbon rubber polymer. We utilize this type of rubber technology extensively, but we do not claim or publish the use of any specific brand of polymer in our compounds.

Does Parker make Aflas®?

Absolutely! Parker offers a wide range of Aflas® materials, including V1006-75, V1041-85, and VP103-90.

What's the difference between nitrile, Buna-N, and NBR?

No difference, these terms are synonyms.

What's the difference between nitrile and HNBR?

HNBR was originally developed as an "improved" version of nitrile. As a result, HNBR is more resistant to atmospheric ozone and has better high temperature stability. HNBR compounds tend to be more expensive.

What is platinum curing?

Platinum curing is used in liquid silicone material technology.

What's the difference between sulfur curing and peroxide curing?

Charles Goodyear's original rubber vulcanization process relied upon sulfur to cross-link the rubber polymer. With a few improvements in the control of the reaction, this same chemical process is still in use today. Most nitrile polymers in production today are sulfur-cured, as this is still the most predictable and cost-effective method of rubber processing.

Peroxide-curing of nitrile rubber polymers provides improved compression set resistance and high temperature stability, but with reduced elongation and flex life.

Unfortunately, the term "peroxide cured" has become a buzzword for "low compression set." While this is generally true for nitrile and EPDM materials, it is not for some other polymers (notably fluorocarbon.) In general, it's far more reliable to define a specification around a given performance level than a certain rubber compounding practice or method of manufacture.

How can I compare materials for off gassing characteristics?

Parker has evaluated a number of compounds for off gassing as measured by vacuum weight loss. These results are highly dependent upon the actual compound formula, so they apply only to the specific Parker compounds in question. They should not be used as "industry standard" values for generic materials.